NOTE III.

DESCRIPTIONS OF EARTHWORMS

BY

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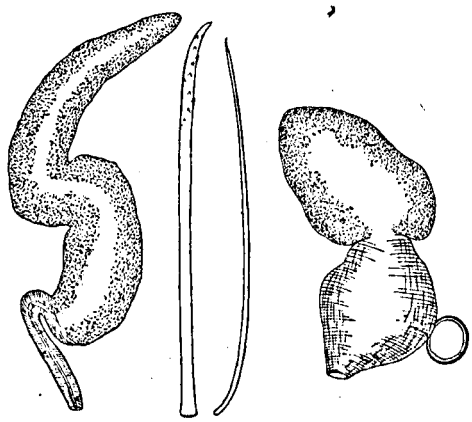
X.

On a Benhamia-species from Paramaribo.

Among a lot of worms, collected in Paramaribo [1]), I met with a dozen of small *Benhamia*-specimens, which cannot be identified with one of the species of this genus, described from America. The number of these species however is not very large. Rosa described a couple of them from Mexico [2]) and Paragay [3]), and Eisen in a recent paper on Pacific Coast Oligochaeta [4])added four new species from Mexico and California. In this



1. 2. 3.

Fig.1. Prostata. Fig.2. Penial setae. Fig. 3.Spermatheca.

1) See Notes from the Leyden Museum, Vol. XX, 1898, p. 202. The specimens of *Pontoscolex corethrurus*, mentioned in this paper, probably belong to Eisen's variety *mexicanus* (Festskrift för Liljeborg, 1896, p. 8), for they differ from the East-India specimens by having not 130 or more segments from head to caudal zone, but only 103 to 120.

2) Ann. K. K. Naturh. Hofmuseums, Bd. VI, 1891, p. 394.

3) Mem. Accad. reale del Sc. di Torino (II) XLV, 1894—95, p. 137, fig. 13.

4) Mem. California Acad. of Sc. Vol. II, 1896, p. 123.

plentifully illustrated memoir he not only published detailed descriptions and figures of his new species, but also of several other allied forms, making thus comparison of the different American species very easy. Though Eisen's discovery of *Benhamia*-species at Miraflores »in a locality to which plants of any kind have rarely if ever been introduced directly from foreign country" would indicate that they must be considered as truly endemic, I nevertheless thought it desirable to compare our worms also with the African species, 1°. because there exists a close connection between the fauna's of West-Africa and West-India, 2°. because, Paramaribo being a sea-port, our species could have been imported by man's interference, like in many other parts of the world. Thanks the investigations of Michaelsen we know about twenty species of *Benhamia* from Africa, whose body-length does not exceed 75 mm.; on comparing them with our worms, *B. pallida*[1]) from Togo, appears to be the only species, that shows some resemblance with them, especially in the feature of the penial setae. Unfortunately the description of this species is rather incomplete, being based on a single indifferently preserved individual.

Our specimens attain a length of no more than 50 mm.; the breadth of the body in the clitellar region is about 3 mm. The number of segments of a large specimen is 133. The colour of the body is greenish, only the clitellum and setal areae are whitish. The intersegmental groove between the first and second segment is rather indistinct. The cephalic lobe extends with a roundish prolongation till the half of the buccal segment. The segments behind the clitellum show a circular ridge in the middle, upon which the setae are situated; the distance between de ventral pairs of setae is a little larger than that between the ventral and dorsal ones. Clitellum saddle-shaped, occupying segments XIII—XX, the anterior and

1) Archiv f. Naturgesch. 1892, p. 50, textfig. B 1 and 2.

the posterior of them only partly glandular; the prostate-pores upon segments XVII and XIX, on an elevated, elliptical area, connected by a groove, that on segment XVIII is faintly curved towards the median line. The oviducal pores separate, hardly visible, at the mesial side of the ventral setae, a little more anteriorly. First dorsal pore in the intersegmental groove III/IV. The spermathecal pores in the groove between segments VII and VIII, VIII and IX, in the series of the ventral setae, connected by a glandular ridge.

The penial sac contains two setae of different shape, but of about the same length (0.6 mm.). The larger of them is 0.014 mm. thick, slightly curved over the fourth distal part of its length and furnished with several distant tubercles; the other seta is much more slender, quite plain, ending abruptly in a fine apex like in *B. culminis* Mich. Each prostata consists of a rather large, linguiform gland, with a knee-shaped bend in the middle, and opening unto the exterior by a curved, much thinner, muscular duct. Each spermatheca is a pyriform pouch separated by a constricted part from the wide, globular duct, which is about equal in size; the latter bears in its middle a small spherical diverticulum, furnished with a short duct. In different individuals however the shape of the spermathecae is somewhat variable, sometimes it is more elongated, resembling those of *B. palmicola*[1]). The 11th, 12th and 13th septa are specially thickened. The buccal cavity is usually everted; the two gizzards lie in segment IX. There are three pairs of calciferous glands in segments XV—XVII; only the two anterior ones contain lime crystals.

In the segments behind the clitellum the nephridia are arranged in five rows on either side of the median line, the first of them between the ventral and dorsal rows of setae.

As already stated above, our specimens most resemble

[1]) Eisen: loc. cit. pl. XLIX, fig. 52 k and h.

B. pallida, especially with regard to the appearance of the penial setae; however these setae seem not to be quite similar, for, according to Michaelsen's description and figures, they are of larger size, more curved and only furnished with tubercles at their concave side. Also his description of the prostata-glands »sehr fein, schlank, schlauchformig" does not exactly correspond to our species. As Michaelsen however only had a single specimen at his disposal, and his description therefore remained somewhat incomplete, it is difficult to decide whether our specimens belong to the same species.

Leyden Museum, June 1899.